

Atty Dkt. No.: CLON-107
USSN:10/765,244

AMENDMENT

Please incorporate the following amendments into the subject application.

In the Claims:

Claims 1-29. (Cancelled)

Please add the following new claims:

30. (New) A nucleic acid which encodes a fusion protein comprising:
- a) a reef coral fluorescent protein reporter domain, and
 - b) a protein degradation domain;
- wherein said fusion protein is at least 4 times more sensitive as a reporter of proteasome inhibition than a fusion protein that includes a d1 protein degradation domain.
31. (New) The nucleic acid of Claim 30, wherein said protein degradation domain comprises:
- i) a PEST targeting sequence; and
 - ii) at least one flanking sequence comprising from about 5 to about 50 residues.
32. (New) The nucleic acid of Claim 31, wherein said PEST targeting sequence is a MODC PEST targeting sequence.
33. (New) The nucleic acid of Claim 32, wherein said PEST targeting sequence consists of amino acids 422-461 of MODC.
34. (New) The nucleic acid of Claim 32, wherein said flanking sequence is N-ter of said PEST targeting sequence.

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35. (New) The nucleic acid of Claim 34, wherein said targeting sequence comprises aa 410 to 461 of MODC.
36. (New) The nucleic acid of Claim 30, wherein said nucleic acid is a DNA.
37. (New) The nucleic acid of Claim 30, wherein said nucleic acid is provided in a vector.
38. (New) The nucleic acid of Claim 37, wherein said vector is a plasmid or viral vector.
39. (New) The nucleic acid of Claim 30, wherein said nucleic acid is a RNA.
40. (New) The nucleic acid of Claim 30, wherein said reef coral fluorescent protein is selected from the group consisting of: ZsGreen, ZsYellow, AmCyan, AsRed, DsRed and HcRed.
41. (New) The nucleic acid of Claim 30 wherein said reporter domain is ZsGreen.
42. (New) A fusion protein encoded by the nucleic acid of Claim 30.
43. (New) A transgenic cell or the progeny thereof comprising the nucleic acid of Claim 30.
44. (New) A method of evaluating proteasome activity in a cell, said method comprising:
introducing into said cell a nucleic acid according to Claim 30 or a protein encoded thereby; and

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detecting the presence of reporter activity in said cell to assess proteasome activity in said cell.

45. (New) The method of Claim 44, wherein said method comprises introducing said fusion protein into said cell.

46. (New) The method of Claim 44, wherein said method comprises introducing said nucleic acid into said cell.

47. (New) The method of Claim 44, further comprising contacting said cell with an agent prior to said detecting.

48. (New) The method of Claim 44, further wherein said detecting comprises using flow cytometry or microscopy.

49. (New) The method of Claim 44, further comprising introducing into said cell a nucleic acid encoding a fusion protein comprising:
a fluorescent protein reporter domain and
a protein of interest.

50. (New) the method of Claim 44, further comprising introducing into said cell a nucleic acid encoding a fusion protein comprising:
a fluorescent protein reporter domain and
a second protein degradation domain.